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RECENT DEVELOPMENTS IN VETERINARY PRACTICE

BY

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The term "Veterinary Practice," broadly interpreted, means the work of the veterinary profession and hence any address dealing with it should cover the labours of each of its sections; educational and research, State and local authority, and private practice itself. Whilst I shall make reference to the work of all branches of the profession, I shall deal mostly with those recent developments more particularly affecting the practising veterinary surgeon. He is the man who advises, or should so advise, animal owners upon the inter-related problems of health and ill-health in their livestock. For let it be stressed at once that the attempt to confine the care of animals in health and disease to separate compartments cannot hold sway much longer, particularly if members of the profession will relate and apply the comprehensive knowledge they learned of animal husbandry, nutrition, pathology and therapeutics and keep this knowledge up to date.

DIAGNOSIS

The most important function of the veterinary surgeon, however, remains that of the diagnostician. Nothing will replace his careful clinical observations but many advances have been made which increase his scope for forming a truly accurate diagnosis. Whilst a thorough clinical examination, assisted by comparatively simple techniques such as taking the temperature or pulse rate, remains important, a firm diagnosis is now more frequently postponed until further observations can be obtained from the use of newer instruments and techniques, often carried out by someone else in a laboratory. These techniques include those of chemistry, physics and pathology. The methods of chemical analysis are applied to the examination of blood, stomach or gut contents, excreta, feedingstuffs and sometimes organs such as the liver. Recent advances in micro-chemical analysis assist in this field.

The techniques of physics are more generally applied in veterinary surgery to-day. For example, greater use is made of X-ray diagnosis for fractures, foreign bodies and growths. It is only recently that this technique could be applied to anything other than the extremities of the larger animals—since, in fact, the development and installation at the Animal Health Trust's Equine Station of an X-ray apparatus sufficiently powerful to enable the X-rays to penetrate without scatter the depth of tissues required in the short time an animal normally remains still. The details of the X-ray apparatus just mentioned may be of interest to those of you engaged in this type of work. The set-up is known as the Watson Special and as far as we know is at the moment the only one of its kind in existence. Its kilovoltage is 120 and milliamperage 400. Such a powerful unit has a very deep penetration and can be used for shoulders, head and neck, spinal cord and we hope eventually for pelvic girdles with very little scatter.

Electrocardiography in the horse has now been going on for some time at the Equine Research Station. A tremendous amount of data and records have been collected and correlated with both clinical and *post-mortem* findings and there is no doubt that much useful new knowledge will be acquired in this hitherto almost unexplored field.

It may be of interest to remark in passing that several well-known horses—one a recent Derby winner—have been examined electrocardiographically prior to purchase by a new owner.

A simpler technique recently introduced is the use of a mine detector for the location of a metal foreign body in a large animal.

With the advance in our knowledge of certain drugs which seem to have a specific action against various pathogenic organisms the necessity to ascertain which organism is really causing the disease has increased. Under certain circumstances the practising veterinary surgeon can determine this for himself. He may take a blood film and examine this microscopically, after suitable staining, either whilst he is still on the farm or when he gets back to his surgery. In this way he occasionally confirms a diagnosis, *e.g.*, anthrax, or learns that the organisms that may be found belong to a broad group, *e.g.*, the streptococci. The accurate determination of the variety of organism causing the disease, however, usually requires the use of much more specialised techniques, which are best carried out by an expert in a laboratory. The organism, if possible, is cultured on suitable media—media which inhibit the growth of common contaminants and facilitate that of the pathogenic bacteria. Some organisms grow best in the presence of an increased concentration of carbon dioxide or in the absence of air; with others, even passage through laboratory animals is needed before they can be obtained sufficiently pure to identify. The length of time for such cultures to grow varies from a few hours to many days, and as there are continuing advances in knowledge concerning the media, they are best conducted by an expert.

Tissues are also frequently examined by pathological methods to determine the type of tissue change and sometimes whether a particular bacterium or parasite happens to be present. Here again the value of an expert can be illustrated by reference to the diagnosis of udder tuberculosis. As a result of the contention of Maitland (1950) that microscopical examination of bulked milk for tubercle bacilli compared favourably with the biological guinea-pig inoculation method, Williams Smith, of the Animal Health Trust, examined a large number of milks from cases of suspected tuberculous mastitis. He made the rather alarming discovery that 8·3 per cent. of the milk samples were found on microscopical examination to contain acid-fast bacilli which although shown not to be tubercle bacilli by guinea-pig inoculation, closely resembled them morphologically. If an experienced bacteriologist found them similar—you and I would have diagnosed tuberculosis and have been quite wrong.

* Address to the Lincolnshire and District Division of the British Veterinary Association.

Stuart & Harvey (1951) produced strong evidence to suggest that a type of mastitis showing the presence of tubercle-like bacilli has resulted from the injection of oily substances into the udder during antibiotic treatment. We have all read of the consternation caused by the appearance of acid fasts in the milk of several cows in an attested herd! With the now very widespread use of antibiotics and chemotherapeutic agents in oily bases, the presence of tubercle-like acid-fast bacilli in the milk may easily cause considerable confusion.

Other techniques such as those of immunology are used to identify the organism causing a disease: these are mainly serological in character and include agglutination tests, haemagglutination or haemagglutination-inhibition tests and various modifications of the complement fixation test. These tests are proving valuable in the identification of the various viruses associated with the distemper-like diseases. At times these serological or blood tests have been simplified to enable them to be used in the field with a reasonable degree of accuracy. Thus to-day pullorum disease or B.W.D. is detected in poultry in the field with little loss in accuracy by lay personnel using a simplified test of this character.

A common method of diagnosing disease is by the use of a diagnostic agent such as tuberculin, mallein or johnin. These tests are usually interpreted by the practising veterinary surgeon but they should be related to the history of the herd in connection with the test. This is what is now done by the Ministry's veterinary officers when they interpret the tests carried out on dairy cattle for the Attested Herds Scheme.

Improvements in these tests have been made in recent years. The diagnostic used is now a somewhat purified chemical product derived from the more complex bacteriological product that was originally employed. In this way complicating substances are removed from the diagnostic agent and greater accuracy results. This accuracy may be increased still further by the use of two diagnostic agents prepared from similar organisms, such as those prepared from the mammalian and from the avian forms of the tubercle bacillus.

Post-mortem examination still remains one of the greatest assets to diagnosis but to do it thoroughly is very time-consuming. It is of real use in the field when the disease affects or is likely to affect many animals in the herd or flock. Advances in our knowledge of the pathological anatomy of cells have been made in various ways and very often these enable a laboratory to be helpful when an organ or tissue is sent to it.

Treatment

The treatment of any condition may be either surgical or medical and considerable advances have been made in both these spheres of veterinary knowledge. Many of the techniques applied in human surgery have now been utilised in the veterinary field, whilst some veterinarians have carried out researches which are proving of use to human surgery. In bone pinning, plastics, steel and alloy materials are now common in veterinary surgery, as are various patterns of splints. Major operations such as rumenotomy and caesarean section are more frequently carried out on the bovine animal than heretofore, due partly to the improvement in surgical technique and partly to the use of various chemicals and antibiotics such as the sulphonamides and penicillin. Advances have also been made in the application of various forms of heat treatment to animals; by way of long- and short-wave therapy, by the use of electrically heated boots, or wraps or by newer poultices. Whilst further information is still required to enable one to decide quickly the best methods to apply to an individual case, valuable information has already been obtained and is being more widely applied. At our Equine Research Station the application of electro-therapy, particularly to injuries in animals, is showing that various forms of wave treatment can be used for special purposes. It would seem that this depends in large measure upon the depth of the injury—the wave treatment required being that which will penetrate to the required depth most effectively. No one wave treatment seems to be satisfactory for all purposes and whilst none of them at times seems to be as effective as "firing" according to some, nevertheless, in many instances this unattractive form of treatment can be replaced by one of the others. Sound waves of supersonic range are now being employed experimentally in the stimulation of deep tissue repair in horses.

On the medical side the three greatest lines of advance are concerned with antibiotics, nutrition and hormone therapy, although improvements have also been made in the preparation of vaccines and anti-sera.

The antibiotics are a group of substances with antimicrobial action originally produced by moulds or similar organisms. These products are separated from the mould growth and then purified. Very considerable advances have been made with our chemical and biochemical knowledge of this group of substances, not only from the point of view of how best to grow the organism to produce the greatest concentration of the required antibiotic, but also in our knowledge of the organisms against which the particular antibiotic is active. The sulphonamides were the first "antibiotics" to be widely used but penicillin is the most popular. Many other antibiotics such as aureomycin, chloromycetin and streptomycin are now well established and many more are awaiting their full exploitation in veterinary medicine. None of these antibiotics, however, is a cure-all and it is becoming increasingly evident that they should be used only for those micro-organisms against which they are effective.

One of the major advances that has arisen from the use of antibiotics is the realisation that a bacterial population can and does change its character in order to maintain its existence and that this fact can give rise to great difficulties in medicine. Nowadays the medical profession is worried at the increasing number of human patients in hospitals whose infections are proving to be resistant to penicillin. When penicillin was first produced in sufficient quantity to be brought into general use in the large hospitals, it was found to be highly efficacious in the treatment of almost every case of streptococcal infection. In other words, almost all the streptococcal types present were penicillin sensitive and the use of the new antibiotic in their control and elimination gave spectacular results. Over the period of only a few years this picture began to change until it is now found that about 50 per cent. of cases of streptococcal infections are resistant to penicillin therapy. It has even been found that streptococci present in hospital wards, where penicillin has been a standard treatment for some years, are largely of the resistant type; whereas those collected from the out-patients clinic are still mostly of the sensitive variety.

It should be borne in mind that the modern conception of the reason for this change is not that some individuals survive the effects of penicillin and then breed resistant strains, but that penicillin acts rather like a selective weed killer. When the sensitive strains are killed off, there is less competition, and the other resistant types hitherto less common become increasingly prevalent, and of course

more difficult to control. Many observers have reported such a situation to be arising in herds of cows kept free of streptococcal mastitis with penicillin.

In view of some recent experimental work, particularly with aureomycin and chloramphenicol, many of us are becoming increasingly worried at the possible effects of widespread and unrestricted antibiotic feeding.

It has long been known that the normal micro-flora of the mouth, respiratory and alimentary tracts are held in a delicate state of balance. It is also known that if this balance is upset—as can be done quite easily by administration of antibiotics—especially the wide spectrum types such as chloramphenicol—there may take place a rapid proliferation of the unaffected types and sudden and fatal disease may arise in this way. The infections which thus arise are usually mycotic in nature and such species as *Candida albicans* may take on an important pathological significance in the body of the individual under antibiotic treatment.

Even more worrying is the knowledge that some antibiotics—notably aureomycin—will actually enhance the virulence of moulds such as *Candida*. It has been clearly demonstrated experimentally that if mice are injected with aureomycin intraperitoneally they are unharmed; if they are injected with suspensions of *C. albicans* they survive but if the two are combined, 100 per cent. of the mice die in a very short time. When death has occurred, the mould can be recovered from many of their organs with regularity.

Outbreaks of monilia infections in aureomycin supplemented swine have been reported in America, and may serve as a warning of harmful things to come if these practices become widespread and unrestricted. We know that under certain circumstances mould infections of the crops of turkeys (moniliasis) can cause epidemic disease and serious loss. Monilia causing no disease can often be demonstrated from crops of healthy turkeys. It is a matter for intelligent speculation and extensive experimental work, to discover whether or not the feeding of antibiotic supplements from day old will cause an increase in virulence of normal inhabitants and result in epidemic disease.

In view of the apparent imperfections in our knowledge of these matters, one may reasonably consider the wisdom of suspending legislation concerning antibiotic feeding supplements.

From the point of view of the growth-promoting factors supposed to be present in antibiotics, I think it can now be fairly stated that many claims have not been fully substantiated and that penicillin is not a complete substitute for sound hygiene and animal husbandry.

I think I can say that we, in conjunction with individuals working at other research centres, are of the opinion at the moment that the addition of penicillin to the diet of these animals may have a beneficial effect on growth when there is some latent infection present. Thus if the animal is carrying a virus or bacterium that might cause a mild form of disease the addition of the antibiotic controls the organism and promotes growth to reach the level it ordinarily would in perfectly healthy piglets or chicks. This links antibiotics and infectious conditions with hygienic management and would emphasise the necessity for the practising veterinary surgeon to have the broadest approach to his problems.

Some parallel instances of disease causation are thought to be related to dosing with certain chemotherapeutic agents. It is found that the dosing of young chickens with sulphaquinoxaline for coccidiosis has resulted in the inactivation of the vitamin K in the ration. This vitamin is normally concerned with maintenance of the clotting properties of the blood and its inactivation has resulted in widespread haemorrhages throughout the body. Another untoward sequel to the use of this and other sulpha drugs has been a form of respiratory disease of a patchy circumscribed pneumonic type thought to be due to the upsetting of the balance between the various constituents of the natural flora of the respiratory tract. These two snags are commonly met with in the poultry *post-mortem* room and are readily recognised.

Examine these matters how one will, one seems to be inevitably forced back to the conclusion that most of these potent agents would be better left in the hands of the various skilled professions which are conversant with their many advantages and some disadvantages, and can spot the earliest symptoms arising from a change in the character of a disease.

Our knowledge of the use of the micro-nutrients, such as vitamins and minerals, has also greatly increased of recent years, as indeed has our knowledge of nutrition more generally. Not only do we now know that proteins and certain of their amino acids are essential for the growth and repair of animal tissues, but we are becoming increasingly aware that other constituents of the diet may affect very considerably the use to which the protein may ultimately be put.

One of the latest advances in connection with vitamins is the discovery of B_{12}. This was first clearly demonstrated in 1948 and since then much work has been carried out to see whether B_{12} could replace animal protein in the diet. It would be better to suggest that this factor might enable the animal to use the available protein to a greater extent than is possible without B_{12}. However, it is now known that this vitamin contains as one of its essential elements cobalt and that it plays a part both in the production of red blood corpuscles and in the synthesis of nucleic acids. It has been shown that pine in ruminants is due to a deficiency of cobalt and now it would appear that vitamin B_{12} therapy will cure pine as effectively as cobalt. In other words, the disease is really a vitamin B_{12} deficiency.

Minerals are also highly important in the diet and there is a growing tendency for the animal owner to consult his veterinary surgeon on nutritional matters. Whilst most balanced rations are likely to contain the necessary quantities of magnesium and phosphorus, one must appreciate that an excessive milk production or rapidity of growth may lead a farmer to feed a ration which is deficient in these substances. At the same time as our knowledge of the value of these major nutrients has increased the linkage of micro-nutrients (such as the substances that have been called the trace elements) with serious disease has been widely confirmed. I need only mention the conditions of pine in ruminants, sway-back in lambs and piglet anaemia to remind my audience of this fact.

Not only has the number of the known vitamins increased considerably as a result of the researches of recent months but our knowledge of their actual functioning in the tissues has also increased. Indeed, it is becoming more clearly evident that the two groups of micro-nutrients—the minerals and the vitamins—play not dissimilar rôles in cellular metabolism and at times members of the two groups appear to be interdependent in their action. Another important nutritional development is the discovery that there are other substances which may be present in foodstuffs which act as vitamin inhibitors or anti-vitamins. An example of this is phytin, which is present in certain

cereals and can inhibit the action of vitamin D, so that rickets may result from a diet apparently adequate in calcium, phosphorus and vitamin D.

Considerably increased knowledge has also been acquired in recent years in the physiological behaviour of the various hormones. The number of known hormones has increased with the improvement in our chemical techniques of separation and consequently so has our knowledge of their actual physiological behaviour. This makes it more easy for veterinary surgeons to apply these hormones rationally and consequently their use has extended. We still have need for much greater knowledge about these biological products and especially about their interrelationships. The practitioner should remember that the addition of any one biologically active substance to the body of an animal may change the physiological equilibrium of that animal, whether the substance added be a hormone, a vitamin or one of the other nutrients. All these substances should be used in therapy with supervision and caution and the practitioner should maintain his interest in the case so that he can modify his treatment should the effect of his therapy not be as he desired.

The same can be said about the use of antibiotics. Practitioners should avoid relying too much upon these active substances, for not only is it possible that the bacterial flora will become resistant to an antibiotic but one must remember that micro-organisms are not the only pathogenic agents nor are they necessarily more than one of the factors leading to a particular disease. It has become increasingly evident during the last 10 years that disease is not a simple matter and that in addition to microbiological causes one must consider very closely interrelated nutritional and husbandry factors.

The third line of medical treatment is the use of vaccines and anti-sera. The major advances in this biological field have been concerned with the preparation of vaccines using techniques leading to the attenuation of the virulence of the organism concerned. This is by chemical treatment, by culture, or by passage through animals, generally of a different species. Thus we now have the crystal violet vaccine of value against swine fever and the attenuated S.19 vaccine for contagious abortion, as well as the vaccines that are being produced against foot-and-mouth disease. Often vaccines cannot be produced because the organism cannot be grown first and hence two of the greatest recent advances in connection with vaccines are concerned with the production of viruses in fertile eggs and in tissue cultures. By these means one can obtain a fairly heavy growth of certain viruses and produce a vaccine much more cheaply than when it has to be produced in the living animal. For instance, vaccines for the control of the distemper virus are now being produced in fertile eggs and vaccines for foot-and-mouth disease are being produced in cultures of ruminant tongue tissue. One might also add that another recent development is the production of foot-and-mouth virus in suckling mice. Although these vaccines are in their early stages and not at present used for foot-and-mouth disease in this country, this may happen within the next few years.

The greatest change in the veterinary profession has been the growth of its work in preventive medicine and in this many of the advances referred to above play their part. Recently State Veterinary Medicine has extended its work in this field and at last a determined attack is being made upon bovine tuberculosis from the point of view of the herds themselves and not only from the point of view of human health. Consequently considerable headway is being made in freeing the cattle of this country from this disease. Husbandry and hygiene practices may also influence very considerably the health of a herd or flock and it is pleasing to note that animal owners are turning more and more to the veterinary profession for this wider advice.

All these developments in veterinary practice depend upon accurate diagnosis and, as has been said already, this can only be made by careful clinical observation, the application of up-to-date knowledge on feeding, husbandry and pathogenic micro-organisms and by the increasing use of laboratory aids. Perhaps one should emphasise here that a laboratory cannot give its best assistance to the practitioner unless the specimens themselves are properly taken, preserved and sent in such a way that they can arrive in a good condition. By preservation I do not mean treatment with formalin; cold is usually much better. Practitioners who are sending materials to laboratories should ask the laboratories for their instructions on this matter and follow them out with care.

Finally, I would like to say a word about the organisation within the profession and its economics. It seems to me that under modern conditions when so much expensive equipment and so many costly drugs are required, the days of the single small practice are passing, unless the practitioner has a working arrangement with his neighbours. There is a tendency for this type of group practice to grow, as indeed it has already grown in human medicine. There is also a tendency for the size of many individual practices to grow, so that they may include several partners or qualified assistants, working from one centre. This is partly the result of general trends in working conditions with a growing realisation that no man, not even a veterinary surgeon, should be expected to work all the hours of the day and night. It is also partly due to the tendency to specialisation within the multiple practice or the group practices. Whilst one would regret very much the growth of specialisation within the veterinary profession to the extent that it has already developed in human medicine, there seems to be a need for more specialist consultants to be available to the practitioner. These consultants may specialise in knowledge concerned with the different species of animals, or they may specialise, as is usual in human medicine, with regard to a particular branch of knowledge. This latter tendency has already resulted in the production of many bacteriologists, pathologists, a few physiologists and biochemists and an occasional geneticist, within the profession. There is still a great need for specialists in other fields of scientific knowledge connected with veterinary science, as well as in the clinical and husbandry fields. In this connection the Animal Health Trust, by developing its group of specialist research stations, is proving of increasing value in connection with the different species. Its consultative and diagnosis services, which these research stations are now supplying through veterinary surgeons, are also coming into increasing demand.

Another need which is overdue is the development of professionally controlled clinics or small hospitals, where the expensive equipment now required in diagnosis, surgery and electro-therapy can be made available. Some large practices already possess this equipment but it only becomes economical when there are some five or more veterinary surgeons working from that centre. The group practices of individual veterinary surgeons located in different villages might with advantage develop some common centre either jointly or in co-operation with some other veterinary organisation. At the moment the only

clinics which have developed—and they are usually very poorly equipped—are those set up by animal welfare societies and whilst they are run largely outside the profession they cannot produce their full benefit to the profession and the welfare of animals. The same remarks apply to hospitals. Whilst there is no necessity to have a large number of animal hospitals in the country, there does seem to be a need for a few very well run hospitals, which can be used by practising veterinary surgeons either directly or indirectly through the professional staffs of the hospitals.

Of recent years there has been a great increase in the number of veterinary surgeons engaged in education and research. This is clearly a great advantage to the profession as not only does it mean an extension in our knowledge, but also links our profession more closely with the scientific branches of other professions. In this way we get help from others whilst at the same time encouraging those others to appreciate our own difficulties.

In this development two bodies have played an important part. The first was the Loveday Committee on Veterinary Education which recommended that veterinary education should be more closely knit into universities. This has happened and although there are many growing pains owing to a shortage of personnel and a slow appreciation sometimes of veterinary points of view, considerable progress is being made and the profession is now represented by a reasonable number of professorships of university status.

The second body to which I refer is the organisation known as the Animal Health Trust which has done much in its short existence and with limited resources in both the educational and research spheres. This organisation awards undergraduate grants and post-graduate scholarships and fellowships to be held in universities. Already over 60 undergraduate grants have been given and approximately the same number of post-graduate fellowships. Several of these fellows have been appointed to important posts in the universities.

In addition to the research independently carried out by these fellows the Trust has established four small research stations dealing with horses, dogs, poultry and farm livestock. Care is taken to avoid gross overlapping between the research of the Trust and that of other organisations and every effort is made to maintain contact between these research centres and the particular industry which they serve. At each centre a consultative and diagnosis service is being developed which, except for poultry, is available entirely through the members of the veterinary profession. Perhaps I might digress here and emphasise that in my view the members of the profession should take a much keener interest in poultry. This industry is the second largest in the agricultural sphere and with the present growth that is taking place in the turkey industry much advice on disease and healthy management will be required. One should not forget that an individual hen to-day is worth about £1 and that turkey poults cost 8s. a head as day olds.

I may here include a word of warning concerning the over emphasis, as it appears to me, that seems to have been laid in recent years upon veterinary practices for farm animals. Whilst it is of course true that animals of economic importance must be the first care of the veterinary profession, we cannot exclude other animals and we must still advance our knowledge and care of horses, dogs, cats, poultry and other birds and those other animals that at present receive little attention. In this sphere again the Animal Health Trust is helping in that a number of young men and women have been given fellowships to enable them to specialise in unusual branches of our sphere of work. For instance, one man had a fellowship for the study of captive wild animals in zoos and another is working upon the population problems of partridges.

In this perhaps superficial address I think I have emphasised the fact that modern developments in veterinary practice really increase enormously the burden resting upon practising veterinary surgeons, for they must take an interest in all forms of management and husbandry as well as in feeding, veterinary medicine and surgery. It is necessary for them to be interested in all forms of livestock, including poultry, rabbits and other fur-bearing animals that are now being increasingly kept. Unless the members of the profession take an interest in these various aspects of veterinary work others will inevitably encroach upon their sphere. Owing to the breadth of the knowledge and experience required it would appear that a greater number of specialists must develop and hence it is important for the general practitioner to realise that, while these specialists and diagnosis laboratories will in no way encroach upon his work, the advice and assistance they provide will enable him to carry more easily his far more important and heavier burden.

DISCUSSION

Mr. Geo. Eaton, who opened the discussion, said: Unfortunately the paper was not received till yesterday morning, and consequently, owing to the short time at my disposal, it is impossible for me to deal adequately with the various points raised by Dr. Wooldridge.

Whilst doubtless Dr. Wooldridge's interpretation of the meaning of veterinary practice is correct, on a broad basis, most of us here to-day understand it as the private practice of one's profession as a means of livelihood, and it is in this type of work that the majority of members of this Division are engaged.

With regard to diagnosis, far be it from me to decry laboratory and other aids—indeed, I avail myself of them almost daily—but it cannot be too strongly emphasised that without keen clinical observation reports from a distant laboratory lose much of their value, since the practitioner on the spot is the only person *au fait* with all the aspects of the case, and the success or failure of any treatment carried out ultimately depends on him.

It is my earnest hope that veterinary practice never emulates the growing trend in human medicine where often the G.P. makes little or no effort to develop an acute critical faculty, and to arrive at a definite diagnosis himself, but merely "passes the buck" to various laboratories and similar institutions and is content to have his opinion made up for him on their reports alone.

It must be remembered that in the pre-antibiotic days the recovery rate, with certain notable exceptions, in both animals and man, was quite as high as it is to-day, and this was mainly due to the clinical ability and skill of the practitioners concerned and their highly developed powers of observation and judgment. Incidentally, in passing one might mention that these recoveries were obtained at a mere fraction of the cost of present-day treatments, and the drug bills of 25 years ago make sad nostalgic reading. However, so much for that.

The development of X-ray apparatus sufficiently powerful for the shoulder and pelvis of large animals is a tremendous aid to diagnosis, and I am sure we can all remember many cases in which it would have been of inestimable help to us in the past.

In my opinion, the main value of the mine detector is when its findings are negative.

Bone surgery has made rapid strides in veterinary practice during the last few years, and I hope this will be elaborated by other members who have had far more experience of it than I.

With regard to antibiotics, penicillin resistance is known to most of us, and I should like Dr. Wooldridge to explain the superiority of crystalline penicillin by injection to procaine penicillin preparations. I should also appreciate his views on the antibiotic feeding of pigs.

Probably the greatest recent development in medicine in the vitamin world is vitamin B_{12} ("Cytamen"). Perhaps Mr. Wooldridge will be good enough to give us some of its main indications. I have not used it so far for pregnancy toxaemia in the ewe. In passing, I may say that our results with glycerine for this condition have been variable and often disappointing.

The advantages of group practices are of course obvious but also there is the other side of the picture, and the intimate personal touch between practitioner and client is lost.

We have all seen the disastrous results following nationalisation of the medical profession, and it is my daily prayer that it may never happen to us.

Mr. R. H. Smythe wished to add his quota of thanks to the essayist. They had expected an interesting paper from Dr. Wooldridge and had not been disappointed.

Personally, he advocated *post-mortem* examination in every available case but the findings needed to be checked and amplified by a laboratory. Students should be taught normals as well as abnormals. They should know if the number of mg. of a toxic substance recorded as being present in a liver or kidney was usual or abnormal; they should appreciate the normal size and weights of various organs, the normal microscopical characteristics of blood and the appearance of healthy tissues. Too few students —and practitioners as well—displayed any great interest in normal tissues in the raw state. Again it was not wise to devote one's learning entirely to the study of modern drugs—it was equally advisable to know something about the animal, even about the animal in health. The greatly derided shot-gun therapy of our forerunners had now given place to the blunderbuss technique of the modern antibiotic merchant and a new form of quackery had arisen. Accurate diagnosis was never more important than to-day; intelligent clinical observation and a discriminating economy in the use of highly expensive drugs would encourage survival of both the patient and the practitioner. Some of the previous generation of veterinarians who knew nothing of antibiotics but a great deal about animals, managed to obtain fairly satisfactory results in many of their cases. He had no wish to decry antibiotics, rightly used they were invaluable; he merely deplored the modern tendency to misuse them indiscriminately, a practice which in the long run would bring them into disrepute.

He congratulated the Animal Health Trust on some of the research in which they had indulged; the work by Hodgman, Parry and others on retinal atrophy in the dog was excellent. He wondered if they had given any attention to the eye of the horse. The usual technique associated with the examination of the eye of a prospective 'chaser or hunter could be improved upon. It was far more serious to pass on a myopic horse to someone who was about to risk his or her neck than to pass one with a small central cataract, but, up to the present, the refractive index of the eye had been ignored.

As the essayist had remarked, surgery had made amazing strides in the last score of years. There was, however, a growing tendency to mutilate living tissues, even if subsequently they were to be excised, by the application of a multiplicity of compression instruments. There was a danger of over-developing surgical techniques and one must remember that the advances in antihistamine therapy had been disappointing and the production of histamine-like bodies in living tissues still needed further investigation. The treatment of surgical shock remained strikingly unsuccessful. Simple surgical methods involving a minimum of trauma, a few essential instruments and a set of deft fingers were still our main assets. He often wondered if the human peritoneum were really as sensitive as we had been led to believe. Apparently, a great number of liberties could be taken with it which would prove fatal in the average dog.

He asked the essayist for some information regarding the apparent similarity in the therapeutic action of certain vitamins, antibiotics and hormones. A case in point was the reaction of the ruminant eye, when infected with certain organisms of the rickettsia type, to either riboflavin or chloromycetin, two essentially different substances, either of which appeared to be specific. There were a great many available instances of a similar nature. What were the vitamin requirements of the bacterial flora and to what degree did they affect the availability of essential vitamins to the animal host? What was the likelihood of the addition of antibiotics to feeding-stuffs producing changes in the normal bacterial flora, possibly with the multiplication of fungi and yeasts? He wondered how long it would be before some enterprising firm started processing waste rumen content and fowl manure for animal food.

Mr. J. S. Steward: Dr. Wooldridge's address was both interesting and stimulating, but not all of it would be acceptable without a contrary view being expressed. Thus he had referred to Maitland as having established the great reliability of microscopic examination of milks for tubercle bacilli but the work of a local veterinarian, H. L. Torrance, who had recently retired, clearly demonstrated this in 1922 (*Vet. Rec.* **2**, (N.S.), 292) and in 1932 (*Vet. Rec.* **12**, 866). Torrance was also the first to draw attention to the importance of the study of the cells found in milk samples.

Dr. Wooldridge had referred to Williams Smith's finding in 8 per cent. of milk samples acid-fast organisms morphologically indistinguishable from tubercle bacilli and also to a form of chronic mastitis clinically similar to tubercle of the udder associated with the base used in intramammary injections. In both instances a study of the cytology of the milk should enable one to recognise the true position.

The guinea-pig inoculation test did not appear to be completely reliable, as when two guinea-pigs were inoculated with a tuberculous sample one of the pair would occasionally be found normal at *post-mortem* examination.

Dr. Wooldridge had stated that heat was the important point in the treatment of equine injuries and a paper published recently from the Animal Health Trust implied that the method giving the greatest heat was the best, when an electrical pad, fomentations and poultices were compared. It appeared to the speaker that the kaolin poultice depended for its effect upon the hygroscopic qualities of the glycerine, etc., rather than the heat retained (only temporarily) by the kaolin.

A number of advances in medical and veterinary science had been mentioned but it was not generally realised that many of the fundamental contributions had been made by veterinarians —in many cases in the development of chemotherapy by the origination of the techniques in laboratory animals, *e.g.*, Innes and Crawford had both contributed to the discovery of new antimalarials, Wooldridge with Quastel had contributed greatly to the fundamental work which was used to explain the action of the sulphonamides. Dr. Wooldridge had referred to the improvement of vaccines—the most important step forward there was probably the adaptation of viruses to growth in the chick embryo—the speaker believed that Beveridge was an early worker in that field. He had seen the mass manufacture of Newcastle disease or fowl pest vaccine in the chick embryo admirably organised in Egypt by a brilliant veterinarian and administrator, Daubney.

Another speaker had decried the wide usage of the antibiotics and stated he had obtained just as good results with old-fashioned therapies. Heaven help us if that were true—it implied that the antibiotics had been inadequately used; when properly applied the results were usually dramatic and predictable. The essentials were recognition of the infection, the choice of the suitable antibiotic and, most important, a proper dosage regime. Overdosage with penicillin was unfortunately safe (from the expense angle), streptomycin had to be used with greater care and toxic symptoms (loss of balance) could occasionally be seen in pigs and small animals.

Dr. Wooldridge had referred to much that the laboratory could do to help the veterinary surgeon—more help would be welcome on the virulence of strains of *B. coli*, staphylococci and some strains of streptococci. It seemed as though the laboratories might investigate the value of the erythrocyte sedimentation rate and simple haemoglobinometry to the practitioner in diagnosis.

Dr. Wooldridge and the Animal Health Trust were to be congratulated on the work they did to help the profession, and it was to be hoped that the support returned was adequate.

The Reply

Dr. Wooldridge, in replying to points made in the discussion, stated that he agreed with Mr. Eaton that the clinician must remain paramount in diagnosis, not only because diagnosis had to be made on the basis of his observations but also because he must in the last resort interpret laboratory findings.

Dr. Wooldridge stated that he was not entirely happy about the introduction of antibiotic supplements in the feeding-stuffs of pigs. Research was still proceeding on this matter and it would not be right to say more at this moment.

Referring to the remarks made by Mr. Smythe, Dr. Wooldridge stated that he agreed fully with the contention that students should be taught normals as well as abnormals. Research workers within the Trust were spending a great deal of time examining normals before they were in a position to interpret results obtained with abnormals. This applied particularly to the work being done with X-ray, electrocardiography and blood pathology. He agreed that there was a tendency to overdo the reliance upon antibiotics in veterinary therapy. These drugs had their limitations and should not be allowed to replace accurate

diagnosis. Some attention had been given at their Equine Research Station to the examination of the eye in the horse, but it had not yet been encouraged to the point of forming a real research investigation. Mr. Smythe, as usual, had focused attention on an important development when he asked what explanation there was for "the apparent similarity in the therapeutic action of certain vitamins, antibiotics and hormones." These biological substances all affected the complex equilibrium of chemical reactions which went to make up cellular activity and at times it was found that substances from more than one of these groups could affect the biological reaction in the same way. For instance, many vitamins, minerals and certain hormones affected the energy producing reactions of the cells, so in certain circumstances they might produce the same effect. Riboflavin was known to participate in some of those cellular oxydisations and it was possible that chloromycetin would influence those enzymic systems in a similar way. The inter-play of those substances for cellular metabolism was a subject for an essay in itself and it was not possible to answer at that meeting the important question raised by Mr. Smythe.

Mr. Steward had aptly drawn attention to the part played by various veterinary surgeons in initiating a number of recent fundamental advances in science. As he stated, these earlier contributions of veterinarians were all too often overlooked by later workers not members of the profession. To some extent this was due to the comparative scientific isolation of the profession in the past, although this could hardly be considered the position to-day when so many veterinarians were undertaking research within the universities.

The following is a record of questions asked by Mr. W. A. Noble, of March, and of the replies given by Dr. Wooldridge:

Q. Lloyd's Insurance are using X-rays to find faults in sheet plates of ships. Would this machine be suitable to examine the pelvis of the horse?

A. He did not know. Their own X-ray apparatus was sufficiently powerful for this but their electricity supply was inadequate. They hoped shortly to be in a position to examine the pelvis of a horse by means of X-rays, as the electricity supply was being rectified. Already they had excellent skiagrams of a horse's shoulder and other parts of the body of the horse, with results far above those previously obtained.

Q. Would penicillin feeds create penicillin resistant strains?

A. He was not in a position to say categorically that these antibiotic supplements would not create penicillin resistance and perhaps in certain cases penicillin sensitivity.

Q. As the electro-microscope is capable of making visible viruses, can it be used in the diagnosis of swine fever?

A. By means of the electron microscope viruses can be photographed and in this way made visible and from the size of these particles it is often possible to recognise a particular virus.

Q. As viruses are being propagated from tissues and eggs outside the animal body, could this method be adopted with regard to the production of crystal violet vaccine, and thus cut down the price of this product?

A. He was not in a position to say categorically whether the fertilised egg technique had been used in the production of crystal violet vaccine, but he thought it unlikely that the workers at Weybridge would have neglected to examine this possibility.

MELTON MOWBRAY ONE-DAY EVENT

On Saturday, August 22nd, 1953, under the auspices of the British Horse Society, the Royal Army Veterinary Corps is organising a one-day event at its Training Centre, Melton Mowbray.

It is hoped that this entirely new venture of the Corps will become an annual fixture, replacing the very successful point-to-point races held in the past.

This year the event will comprise three phases: Dressage (novice), show jumping and cross country. Much work has been put into the construction of the cross country course, which should prove a fair test to both horse and rider.

Unlike many such courses, spectators will have an uninterrupted panoramic view of practically the whole course.

Members requiring further information concerning the event should apply to Major G. D. Young, M.B.E., R.A.V.C. Training Centre and Depot, Melton Mowbray, Leicestershire.

ANIMALS I HAVE MET

THE RHINOCEROS

BY

D. D. OGILVIE

"Nasty chap, the rhino.," said my friend as he put his foot hard on the accelerator and we moved forward again on the road to Nairobi. "One-horn or two-horn, male or female, I always give him his way. He's quite a packet in an argument and not the sort to accommodate you if he doesn't feel like it." I watched the rhinoceros lumber down the bank off the road and, with a switch of his tail, disappear into the gathering darkness. It took me quite some time to learn that my friend was wrong and that the rhino., shyest beast of all when it comes to the presence of man, is interested only in getting out of the way. His reputation as a ferocious fellow has come merely from his somewhat belligerent appearance and his short-sighted nervousness in making off which sometimes leads him to blunder into or even over his pursuers.

Rhinos. come in all shapes and sizes with models to suit all tastes. There is the Lesser One-horned rhinoceros, the Great Indian One-horned rhinoceros, the Asiatic Two-horned rhinoceros, the Black African rhinoceros and, believe it or not, even a White rhinoceros. This last-named creature eats nothing but grass—enough to make anyone grow pale—and is a prize much sought after by agile African big game hunters. I was once offered one for sale in Khartoum and assured that if I could get it home I could make a very real profit on it. But astute as I am at dealing with officers of H.M. Customs and Excise, I could not think of how to gain entry for it without the payment of heavy duty and possibly even purchase tax. Nor was I able, off-hand, to fix on any of my friends likely to jump at the chance of owning such a beast. So I left it alone.

Now quite apart from the morphological differences between the various types of rhinos. and some details of their rather scandalous behaviour in the fastnesses of the jungle which really I would rather not go into here, there are two points about them which I have always considered to be especially notable. These concern, firstly, the powerful effects which are often ascribed to rhino. urine, and secondly, the legendary properties of rhino. horn, which is still popular as a medicament in China and many other parts of Asia.

In parts of India rhino. urine, like rhino. blood, is considered to be especially efficacious to the dying as it ensures for the soul both a peaceful departure and a happy release on the other side—a sort of spiritual lubricant, as it were. In addition, it is held to have powerful antiseptic properties and is often to be seen hung in vessels over doorways to houses as a charm against ghosts, ghoulies, and, no doubt, things which go bump in the night. Certainly the keeper in the Calcutta Zoo told me, when I was there, that there was always a brisk demand for this useful product. In fact, owing to shortage of rhinos. and the continuing hot weather, he was at that time having to ration supplies to his best customers, an awkward predicament which obviously was making life very difficult for him.

More hard cash, however, has been made from marketing rhino. horn than from flogging rhino. urine, if I may be permitted the use of the popular idiom. Back in history some Roman wide-boy no doubt ran a publicity drive to link up the rhino. with the unicorn in the public

eye and hence was able to put over the idea that a rhino. horn, like the horn of the unicorn, if made into a cup, would detect any poison which was poured into it. Such a cup was a useful bit of apparatus to have around when the fashionable way to pay off old scores was to slip a spot of aconite or what not into the claret. And so the demand for rhino. horn cups in the Middle Ages reached what our American friends aptly describe as an all-time high. Demand lagged later, however, when, despite routine use of this sterling prophylactic, kings and commoners alike still succumbed. But undaunted, the vendors of rhino. horns found other uses for their product. Powdered and dropped into tea, rhino. horn had an excellent effect on well-being and virility. And rhino. skin, roasted like pork cracknel, became a delicacy for the better sort of people. Even rhino. toe nails became marketable, a feat of salesmanship not yet paralleled even for the much more easily acquired human article.

All this placed a strain on the powers of procreation of the rhinoceros which even this fertile and active animal was unable to sustain. So now rhinos. are becoming rare. The trails which they have worn down through the ages are weed grown, the steamy pools in which they wallow to coat themselves with mud have scummed over and are quiet. Please, then, when next you see a rhino. moving along the close jungle track or being chased from its water hole by elephants, as it often is, or even glowering at the crowd at the local zoo, covet it not, demand neither its horns nor its skin nor any of its parts, no matter how dire your needs. Like a famous film star of long ago, the rhino. asks only to be left alone. Respect its wishes and this happy monster, so long with us and harming no one, will not perish from the earth.

PHARMACY AND POISONS ACT, 1933

Statutory Instruments giving effect to recommendations made to the Secretary of State by the Poisons Board are being prepared. The following are among the changes it is proposed to make in the Poisons List and the Schedules to the Poisons Rules.

Sodium nitrite will be added to Part II of the Poisons List, and provision will be made in Group II of the Third Schedule to the Poisons Rules for exempting it from the requirements of the Pharmacy and Poisons Act and the Poisons Rules except when in the form of preparations for the destruction of rats or mice.

Ambodryl, under a name to be approved by the British Pharmacopoeia Commission, will be added to the series of antihistamine substances included in Part I of the Poisons List and the Schedules to the Poisons Rules.

Chlorpromazine will be added to Part I of the Poisons List and the First and Fourth Schedules to the Poisons Rules.

Phenylbutazone will be added to Part I of the Poisons List and the First and Fourth Schedules to the Poisons Rules.

The *dithienylallylamine compounds* will be added to Part I of the Poisons List and the First and Fourth Schedules to the Poisons Rules; inclusion in the Fourth Schedule will cease should the substances be controlled under the Dangerous Drugs Law.

Mustine will be added to Part I of the Poisons List and the First and Fourth Schedules to the Poisons Rules. *Triethylene melamine* and *myleran*, under names to be approved by the British Pharmacopoeia Commission, will be made subject to the same control.

N-allylnomorphine, *3 methoxy-N-methylmorphine* and *morpholinylethylmorphine* will be added to Part I of the Poisons List and the First Schedule to the Poisons Rules. Exemption from the requirements of the First Schedule will be provided for substances containing less than 1·5 per cent. of morpholinylethylmorphine.

Procaine when associated with penicillin or other substances to which the Therapeutic Substances (Prevention of Misuse) Act applies, and included in concentrates or animal feeding-stuffs covered by Regulations made under that Act, will be exempted from the requirements of the Pharmacy and Poisons Act and the Poisons Rules.

CLINICAL COMMUNICATION

THE USE OF CORTISONE IN THE TREATMENT OF ARTHRITIS IN A BULL

M. R. LAWSON and L. E. ROWSON

The use of cortisone in cases of human rheumatoid arthritis is well known, but largely owing to its prohibitive cost little work has been done on its effect in cases of arthritis involving farm animals.

Owing to the courtesy of the Medical Research Council a supply of 20 grammes of cortisone acetate (Merck) was made available for the treatment of a valuable Shorthorn bull standing at the Cambridge Artificial Insemination Centre.

The bull had shown signs of progressive arthritis of the hock and hip joints over a period of months and had been treated with sodii salicylas without any great benefit. As the condition became progressively worse treatment by diathermy was attempted, again without any appreciable effect. The animal had now reached the stage (illustrated by Figs. 1 and 2) where he constantly fell down when taken out of his box and spent most of his time lying down. He was showing some signs of pain and was not eating well and slowly losing condition.

Fig. 1.

Fig 2.

As the appropriate dosage was not known, an experimental dose of 2 grammes of cortisone acetate was injected intramuscularly followed by daily doses of 1 gramme. Five days after the first injection the bull was showing signs of improvement which became progressively

more marked until the 10th day when injections were stopped. The bull could, by then, walk normally and was eating well (Fig. 3).

Fig. 3.

He was in fact used for service at this time and served readily without any difficulty. However, within 11 days of stopping the daily injections he had returned to his previous state and was unable to walk properly. Cortisone injections were therefore recommended and this time sodii salicylas was given in the food as well. As before, an initial dose of 2 grammes cortisone acetate was injected followed by a daily dose of 1 gramme. Improvement was noted four days after the first injection and after six daily injections the bull was almost normal again. The injections were again stopped but the sodii salicylas treatment continued, and it was 14 days later before obvious signs of stiffness returned. On the 17th day after treatment was discontinued an attempt was made to collect semen, but the bull had great difficulty in mounting the teaser cow. The condition became progressively worse, and by the 40th day after the end of the second series of injections the animal was developing bedsores from constantly lying down, was only able to move with the greatest difficulty, and it was decided to destroy him. Unfortunately it was not possible to carry out a *post-mortem* examination as the bull was the subject of an insurance claim.

We feel this case to be of interest in view of the spectacular response which followed the injection of cortisone; although all symptoms of the condition did not completely disappear after treatment the animal responded to such an extent that he was able to work normally and to a casual observer would have appeared quite sound. It is probable that permanent changes had taken place in the joints which prevented complete recovery during treatment and although the residual stiffness was slight and confined to one hind leg, it was still detectable.

EIRE'S NEW VETERINARY RESEARCH INSTITUTE

The Department of Agriculture have invited tenders for the work involved in the conversion of Abbotstown House, Castleknock, into a Veterinary Research Institute.

The house, which stands on an estate of 435 acres, was formerly the residence of Lord HolmPatrick. It was purchased by the Department in September, 1950. The new Institute when completed will absorb the Veterinary Research Laboratory at Thorndale, Drumcondra, Dublin.

ABSTRACTS

Antibiotics in Veterinary Medicine*

This article, which is a review, discusses most of the well-established antibiotics, particularly tyrothricin, penicillin, streptomycin, aureomycin, chloro-amphenicol and terramycin.

The article commences with a statement on the conditions necessary to obtain the maximum effect with any particular antibiotic treatment. [This introduction would have been strengthened by some discussion of the known facts of the mode of action of antibiotics.—*Abstractor.*]

There follows information on the range of activity, toxicity, absorption, excretion and dosage of the antibiotics listed above. The literature is reviewed on the effect of these antibiotics on micro-organisms and the diseases caused by them in animals. A similar presentation is employed for the discussion of antibiotic treatment of the different anatomical systems. Particular attention is paid to the use of antibiotics in the treatment of bovine mastitis.

[The article is based on a wide knowledge of the literature —586 references are quoted. However, some of the articles familiar to the abstractor are misquoted and there appears to be the common continental difficulty in spelling English names correctly. Despite these defects, the article is a useful summary of the extensive literature on the subject. —*Abstractor.*]

D. L. H.

*** The Use of Antibiotics in Veterinary Medicine, particularly in the Treatment of Infectious Diseases (L'Utilisation des Antibiotiques en Médicine Vétérinaire).** Richou, R. (1952). Collection des Travaux de Pathologic Comparée, Pacomhy, S.A.R.L., Paris.

* * * * *

Surital Sodium a Safe Anaesthetic for Dogs and Cats*

The authors have administered surital sodium, an ultra-short-acting barbiturate, by intravenous injection to 369 dogs and 36 cats. It has been used, in poor and good surgical risk patients, in a wide range of surgical procedures.

The bodyweight of the dogs ranged from 2½ to 96 lb. and their ages from three months to 15 years. The patients were equally divided between the sexes.

The required dosage was 1 c.c. of a 4 per cent. solution per 4 or 5 lb. b.w. Pre-anaesthetic medication was seldom necessary.

Fewer than 2 per cent. showed excitement during induction or post-operatively. Approximately 75 per cent. salivated following the administration. One patient died.

The average recovery time was 45 minutes and additional anaesthetic was needed in 42 operations.

Surital sodium is considered a safe anaesthetic, being particularly useful for operations of short duration.

L. C. V.

*** Clinical Experience with Surital Sodium as an Anaesthetic in over 400 Dogs and Cats.** (Knirk, H. W., and Eads, F. E. (1953). *N. Amer. Vet.* **34.** 195-196.

APPOINTMENTS TO THE MILK MARKETING BOARD

The Minister of Agriculture and Fisheries has reappointed Sir Frank Ware, C.I.E., F.R.C.V.S., Mrs. Edith Webb and Alexander Baillie, Esq., to be members of the Milk Marketing Board for further periods of one, two and three years respectively from July 1st, 1953. The reappointments have been made for varying periods to secure continuity of experience among the appointed members on the Board.

REPORT

CRUELTY IN NORTH AFRICA

The annual report for the year 1952 has just reached me from the Society for the Protection of Animals in North Africa (S.P.A.N.A.). It makes terribly despondent reading and the writer of this notice feels constrained to put the plight of those poor animals again before the veterinary profession. It seems incredible that nothing can be done by us to help them. Perhaps it is truer to say, however, that the only way open to us would be practical financial support to S.P.A.N.A., the only existent body which champions their cause. The writer collects a useful amount each year with a " donation box " in the surgery, and he does sincerely appeal to his colleagues to do likewise, feeling sure that all would if they could know the details of the heartless atrocities which go on, day in and day out, almost as a routine.

In 1925 Mrs. and Miss Hosali visited Algiers and founded a Society named " Les Amis des Animaux," this Society being in effect the Algiers counterpart of S.P.A.N.A.

In 1927 Captain E. Fairholme (at that time Chief Secretary of the R.S.P.C.A.) visited Algiers and discovered Mlle. Ruperto, a fully qualified nurse who had completed 18 years' service in the Red Cross. He persuaded her to take up animal work, and she thereupon became the soul, inspiration and driving force of "Les Amis des Animaux."

Through the medium of this Society, Mlle. Ruperto carried out innumerable and far-reaching reforms during the period 1927 to 1945. These included more humane transport and slaughter of food animals, suppression of many cruelties, rescue of stray and abandoned animals, and the establishment of a free clinic (closed during the war).

Since Mlle. Ruperto moved to Touggourt in 1945, it has been a matter of deep concern to S.P.A.N.A. that Algiers should have remained utterly unprovided for as regards active animal protection. This beautiful but heartless town comprises 600,000 inhabitants in the central portion alone, to say nothing of the extensive outlying suburbs; it seems incredible that in the whole area there is no place at all to which an animal can be taken. It is true that the passage of time has solved some of the problems; fast cars and heavy lorries have now replaced the pitiful wagonettes and carts that used to struggle up the 4 kilometre stretch from the Grand Poste to the heights of El Biar.

The problem of cats and dogs, however, is just as acute as ever, and will remain so as long as the city has no refuge to which a sick, injured, unwanted, or homeless animal can be taken, either to be humanely destroyed or treated at a nominal price. There are only a few veterinary surgeons, who naturally expect high fees consistent with the high cost of living. Cats roam the town in vast numbers, and are often seen in the richest districts in a deplorable condition, covered with partly healed sores and skin diseases. These half-wild creatures have their kittens in crannies and inaccessible spots; the young ones come forth only when they are partly grown and impossible to catch.

Many animal lovers in Algiers take in a number of these homeless, unwanted creatures, or search out the new-born litters and destroy them as humanely as they can. Numbers of people have their own little groups of protégées who assemble furtively at dusk in alley-ways and quiet corners in expectation of the scraps which may be thrown to them. There is a limit, however, to what individual charity and pity can achieve for, with the best will in the world, it is not easy to take homeless, dirty and sick animals into a small flat, let alone pay veterinarians' fees.

In Algiers there is, alas, much callousness and active cruelty. There being no place to which unwanted animals can be taken, people commonly lose them. A favourite method is to take a dog into the country by car, throw it out and drive away. Many people leave their dogs on the quay side when boarding ships to France for holidays. In one instance, a woman who owned several dogs had three of them poisoned by neighbours who gave spirits of salts to two of them, and fried sponge to a third. This last is a common method; the sponge swells and is neither evacuated nor digested. The animal dies slowly, and only after great suffering. Cats are often stoned to death; kittens' eyes are put out. Quite recently a dog's eyes were put out by an Arab girl ; but European children also commit atrocities.

Many cruelties occur at the great cattle and sheep market at Maison Carrée. Recently two donkeys in an overcrowded van fell and were trampled to death by other donkeys and mules. A mule which stopped to stale was savagely thrashed by the man leading it. A camel limped in, very ill, after completing a 15 days' march without food or water. An unprecedented scandal occurred during an Arab feast with four consecutive days public holiday. The entire *fourriere* staff had gone off for the holiday leaving the dogs without food, water or attention, in close proximity to three dead dogs, in complete darkness and without ventilation. Protests were made to the appropriate authorities but little or no notice was taken.

An unhappy feature of the Algiers *fourriere* is that fines and charges imposed upon owners are so heavy that only about 40 per cent. of the dogs are reclaimed, the unclaimed dogs being nearly all taken to the Pasteur Institute or School of Medicine for vivisection. It is highly unlikely that such establishments are subject to inspection as in Great Britain. These things will obviously continue until a really strong and active Society can be formed, running its own animals' refuge and clinic, with a whole-time personnel and a motor-van which will go round the town and suburbs to pick up lost, injured or unwanted animals.

In view of the size of the city, and the high cost of land, labour, building materials and everything else, the founding and maintenance of a Refuge and Hospital will necessarily involve heavy expense, especially as any establishment constructed in the capital must obviously be on such a scale and of such a quality as to attract widespread attention, command respect, and serve as a model for the whole of Algeria. Only in this way can the prestige of animals be raised and the national outlook altered.

The legal and practical difficulties standing in the way of this scheme are considerable owing to the amount of red tape involved and the fact that societies working in French territory are restricted by a maze of irksome regulations, instead of being free to initiate good and useful work as in Britain.

The writer personally has seen the most revolting instances of cruelty in Tangier and its environs and knows only too well how indescribably callous are the populace towards their overworked, starved animals. Would it not be possible for the R.S.P.C.A. to contact the French authorities and try to effect an amelioration of suffering? If reforms could ever be enforced, one of the first he would like to see in operation would be the banning (under penalty) of the vile custom of goading by means of a nail on the end of a stick. The mules and donkeys are generally so emaciated, starved, tired, and overloaded that they might well need goading to get them to move. But the dreadful lacerations about the anus and vulva of many animals have to be seen to be believed.

S.P.A.N.A. is carrying on a brave fight against great

difficulty and lack of funds; yet during 1952 28,177 animals were treated in the Tunis area, 15,627 in Sousse area, 25,408 in Gabes area, 24,282 in Gafsa area, and great numbers in other areas, making a total of 149,603.

Is it to be wondered at that the Society urgently needs support from every soul who loves animals, and can feel shocked at their unmerciful suffering.

HAMILTON KIRK.

REVIEW

[Richmond's "Dairy Chemistry." Fifth edition (1953): revised by J. G. DAVIS, D.SC., PH.D., F.R.I.C., and F. J. MACDONALD, A.R.I.C. Published by Charles Griffin & Co., 42, Drury Lane, London, W.C.2. Price 60s.; postage, 1s. 2d.]

In the case of a book, the first edition of which appeared over 50 years ago and which has been regularly revised since then, it would seem to be evident that the work has found a wide public. On this account, the review of the most recent edition scarcely requires a survey of the book as a whole so much as a comparison between this recent edition and its immediate predecessor. Furthermore, the veterinary surgeon will be more concerned with the recording of recent advances which are of veterinary interest than with matters which are of greater significance to the dairy chemist.

The new edition is about 25 per cent. longer than the previous one, and the number of references, a great proportion of which are very recent, exceeds a thousand. The increased length applies both to the general and theoretical part of the book and to the section dealing with analytical methods. It is interesting to note that the journals which have been extracted are two and a half times as numerous in this edition as in the fourth.

A chapter dealing with statutory tests for milk is a new and valuable introduction. In the section dealing with variations in the composition of milk, new material is responsible for a 50 per cent. increase in length.

In short, it may be said that the book remains a standard text in this field and should command the attention of the veterinary profession to an even greater extent than the previous editions. Nothing which pertains to the composition of milk and milk products seems to have been omitted and the increased length of the text is due not merely to the addition of recent material to the previous text but rather to a careful revision of the latter as well. Richmond's "Dairy Chemistry" remains a necessity for all those who are concerned with milk quality.

BOVINE TUBERCULOSIS AND BRUCELLOSIS NEARING EXTIRPATION FROM FINLAND

In his report published in the July number of the circular issued by the Office International des Epizooties, Dr. E. Huhtala, Director-General of Veterinary Services, Finland, writes from Helsinki: "The systematic campaign against bovine tuberculosis which has lasted over 50 years in our country has resulted in an almost complete eradication of this disease and it is now rare in Finland. In the abattoirs and meat inspection stations of the country nowadays, in less than 0·01 per cent. of the animals inspected annually has bovine tuberculosis been established; with the intradermal tuberculin testing of cattle, a bovine tuberculin reaction is very rare and leads immediately to a stamping out of the whole herd.

"The campaign against brucellosis in Finland started in 1938. At the moment there are in the country only 70 herds affected with this disease and it is considered that within the next two years Finland will be entirely free."

VICTORIA VETERINARY BENEVOLENT FUND

MEETING OF COUNCIL

A meeting of the Council of the Victoria Veterinary Benevolent Fund was held at No. 10, Red Lion Square, London, W.C.1, on Tuesday, June 30th, 1953, when the following members were present: Professor J. B. Buxton (President) in the chair, Messrs. E. P. Barrett, H. W. Dawes, Major J. J. Dunlop, Mrs. C. L. Graham (President, Ladies' Guild), Professor J. McCunn and Mr. Arnold Spicer. Mr. C. W. Francis, Secretary, was in attendance.

Minutes.—The minutes of the previous meeting, held on March 30th, 1953, having been published, were taken as read and signed as correct.

Apologies for Absence.—Letters of apology for absence were received from: Mr. H. Bell, Professors T. G. Browne, R. E. Glover, Mrs. D. I. Glover, Mr. L. E. Hughes, Professor W. M. Mitchell, Dr. R. F. Montgomerie, Professor C. W. Ottaway, Captain J. W. Procter, Professors L. P. Pugh, W. L. Weipers, Captain A. Whicher and Major W. H. Wortley.

CORRESPONDENCE

(*a*) *Resignation of Member of Council.*—A letter dated June 28th from Captain A. Whicher was read. This intimated that he wished to resign as a Councillor but by a unanimous vote of the Council his request was not agreed to and the Secretary was instructed to write to Captain Whicher to ask if he would kindly reconsider his decision.

(*b*) The Secretary reported the receipt of a letter from Messrs. Skelton, McMaster and Co., Solicitors, enclosing cheque for £30 bequeathed to the Fund by Mr. D. R. Williamson, deceased, of Belfast.

(*c*) The Secretary submitted correspondence from Messrs. Crossman and Co., Solicitors, from which it was learned that the Fund would shortly benefit to the sum of £68 8s. 6d. under a legacy left to the Fund by the will of the late J. C. James, of Thornbury, Bristol.

(*d*) A letter from the Professional Classes Aid Council of April 14th inviting the appointment of a representative of the Council V.V.B.F. in place of Lieut.-Colonel P. J. Simpson, deceased, was read. As the nomination was required in time for their annual general meeting to be held on June 25th, the Executive Committee had put forward the name of Mr. H. W. Dawes.

It was resolved: "That the nomination by the Executive Committee of Mr. H. W. Dawes to serve on the Council of the Professional Classes Aid Council be confirmed."

Ladies' Guild, Summer Gift.—The Secretary reported that on the previous day the Executive Committee had distributed the sum of £254 in gifts ranging from £6 to £15 to 32 recipients. This was the balance left over from the handsome contribution made by the Ladies' Guild last September, after the Christmas gifts had been sent out. The acknowledgments from the recipients had not yet been received, but these will be brought to the notice of the Council at its next meeting.

ACCOUNTANT'S REPORT

The Secretary read the following report, which was approved, a vote of thanks being accorded to the respective donors.

Since the previous meeting the following donations have been received:—

	£	s.	d.
Legacy			
From the estate of the late Major D. R. Williamson, M.R.C.V.S., Belfast	30	0	0

Collecting Boxes

Central Veterinary Society	11	10	6
East Midlands Division	4	16	0
Herts & Beds Veterinary Society	5	12	8
Midland Counties Veterinary Association	4	10	0
Scottish Metropolitan Division	2	4	1
Society of Women Veterinary Surgeons	2	10	6

Miscellaneous

Cruft's Dog Show (in appreciation of the services of veterinary surgeons)	13	2	6
East Midlands Division—Raffle at Annual Dance ...	12	5	0
East Midlands Division—Special Collection ...	3	5	0
Kenya Veterinary Association (Annual)	10	0	0
Proceeds of Dance organised by veterinary surgeons in the Redditch area	17	0	0
R.S.P.C.A. Southampton Branch	12	10	0
Royal Veterinary College, Streatley, resulting from annual levy on Final Year Students	9	0	0
Salisbury and South Wilts Canine Society (in appreciation of the services of veterinary surgeons) ...	4	4	0
Scottish Regional Group of the Association of Veterinary Teachers and Research Workers	1	10	0
Wellingborough and District Canine Society (in appreciation of services of veterinary surgeons) ...	2	2	0
Whicher, A.		10	6
	£146	12	9

Covenants for payment of Annual Subscriptions

Three members have completed covenants for the payment of annual subscriptions; one for the payment of £2 2s. and two for the payment of £1 1s. annually.

CASES

No. 245, Widow; aged 69. For a while obtained a little income from breeding dogs. Her only income now is 10s. per week.

It was resolved: "That the present grant be increased to £2 per week as from July 1st."

No. 289, Widow; aged 78. The Secretary read correspondence received since the March meeting, when a grant of £2 per week was made, and reported that the Executive Committee had accordingly reduced the grant to 18s. per week.

The action of the Executive Committee was unanimously approved.

No. 292, Widow; aged 74. Lets off part of house which late husband rented on lease, but net income very small. Right arm permanently out of use. After careful consideration of this case, and having regard to the report submitted by a member living in the locality, it was agreed that a grant of 30s. per week as from June 1st be made to the applicant.

No. 293, Widow; aged 53. Husband died October 25th, 1952, leaving an estate likely to prove insolvent. Income precarious, from 25s. to 30s. per week from boarding cats. The Secretary informed the Council that the National Veterinary Benevolent and Mutual Defence Society were also interested in this case and the Treasurer had written to him on June 24th to say that his Society would like the Fund to agree to let them deal with the applicant.

The President stated that on behalf of the Executive Committee he had instructed the Secretary to write thanking the Society for their kind offer with which his Committee was in full agreement.

It was resolved: "That the action taken by the Executive Committee be approved, and that it be placed on record that the Council deeply appreciate this kind help of the National Veterinary Benevolent and Mutual Defence Society."

No. 294, Daughter (aged 54) of late member who died in 1927. Suffering from rheumatism, and recently underwent a major operation. Has been able to earn a little at teaching in a local country school, but this appointment had now terminated.

It was resolved: "That a grant of £1 per week be made and that the case be reviewed in 12 months' time."

REMITS FROM ANNUAL GENERAL MEETING HELD AT EDINBURGH, MAY, 1953

(*a*) *Circular to the profession for increased subscriptions.*—It was resolved: "That having considered the remit from the annual general meeting that a circular be sent to all members of the profession for increasing the subscriptions, and having in mind previous experience in this connection, the Council is of the opinion that no useful purpose would be gained by circularising individual members and that we should continue our present method of personal application through the Divisions."

(*b*) *Review of Investment Capital.*—It was resolved: "That having given this remit and the whole matter of investments very careful consideration, the Council has unanimously come to the conclusion that no useful purpose would be served by making any alteration in the present system regarding investments made by the Fund."

Date of Next Meeting.—It was agreed that the date of the next Council meeting be left to the Executive Committee to be fixed, if possible, during the week of the R.C.V.S. September meetings.

Vote of Thanks.—On the proposition of Mr. ARNOLD SPICER, seconded by Mr. H. W. DAWES, a vote of thanks was passed to the President for his conduct in the chair. The meeting then terminated.

NOTES AND NEWS

Diary of Events

Aug. 9th—15th.—XVth International Veterinary Congress, Stockholm, Sweden.

Aug. 19th.—Meeting of the Editorial Executive Sub-committee at 36, Gordon Square, W.C.1, 2.30 p.m.

Sept. 6th—12th.—Seventy-first Annual General Meeting and Congress of the British Veterinary Association, at Aberdeen.

Sept. 10th.—Annual General Meeting and Dinner of the Royal Dick Alumnus Association at Aberdeen (The Northern Hotel), 6.30 for 7 p.m.

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SWINE FEVER

A short adjournment debate on the subject of swine fever took place prior to the rising of the House of Commons on Friday, July 31st. A full report will appear in our next issue; in the meantime it may be said that, in reply, Mr. Nugent, the Joint Parliamentary Secretary to the Minister of Agriculture, stressed that the policy of vaccination with a really effective vaccine, crystal violet vaccine, which was normally effective for a full 12 months, was "obviously the right policy to follow and our concern is to see that this is put into practice universally, or at any rate by all pig-breeders throughout the country."

CRYSTAL VIOLET VACCINE

The Ministry of Agriculture announces that owing to the increased cost of production of crystal violet vaccine the Ministry has been obliged to increase the price from 2s. to 2s. 3d. for a 5 c.c. dose and from 4s. to 4s. 6d. for a 10 c.c. dose. The increased price will operate as from August 1st, 1953.

The vaccine will continue to be supplied to veterinary surgeons from the Ministry's Veterinary Laboratory at Weybridge, Surrey.

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B.V.A. ANNUAL CONGRESS, ABERDEEN

Bowling Competition

Any member desiring to enter for the Bowling Competition, to be held at 2 p.m. on Thursday, September 10th, should notify Mr. E. F. Hardwick, M.R.C.V.S., 30, Hamilton Place, Aberdeen, who is in charge of the arrangements.

Use of Toxic Chemicals in Agriculture

As was announced in our last issue, the Ministry of Agriculture and Fisheries has appointed a Working Party on Precautionary Measures against Toxic Chemicals used in Agriculture: Risks to Wild Life, with the following terms of reference:—

"To investigate the possible risks to the natural flora and fauna of the countryside from the use in agriculture of toxic substances, including the possible harmful effects for agriculture and fisheries, and to make recommendations."

The Ministry has asked the B.V.A. for any information in this connection which may be of use to the Working Party and the matter was briefly discussed by the Technical Development Committee at a recent meeting. As a first step it was decided to seek evidence from members through the columns of *The Veterinary Record* in order that a collated report may be prepared for submission to the Ministry at an early date.

Would any member with experiences to report, kindly do so to the General Secretary, B.V.A., 36, Gordon Square, London, W.C.1, as early as possible.

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PERSONAL

Royal Garden Party.—Mr. S. L. H. Walshe, M.R.C.V.S., Senior Veterinary Officer, The Gambia, British West Africa, who is home on leave, had the honour, with Mrs. Walshe, of attending the Royal Garden Party held at Buckingham Palace on June 23rd.

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Birth.—Leslie.—On July 28th, 1953, to Jane, wife of Peter Leslie, M.R.C.V.S., Westhaugh, Carleton, Pontefract, a daughter.

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Marriage.—Greig—Cooper.—On July 29th, 1953, at Newton-on-Ayr Old Church, William Alastair Greig, PH.D., B.SC., M.R.C.V.S., Aberdeen, elder son of Dr. J. Russell Greig, C.B.E., M.R.C.V.S., and of Mrs. Russell Greig, Edinburgh, to Margaret Barclay Cooper, M.R.C.V.S., eldest daughter of Mr. and Mrs. Robert Cooper, Ayr.

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Dr. W. P. Blount.—The British Oil & Cake Mills Ltd. announce that Dr. W. P. Blount, F.R.C.V.S., is leaving their service in October in order to take up the post of Veterinary Director of Lederle Laboratories Division, Cyanamid Products, Ltd. (London).

He will be succeeded as Poultry Adviser to B.O.C.M. Ltd. by Mr. W. Carr, N.D.A., N.D.P., who will also take over responsibility for B.O.C.M. development work in pig and poultry nutrition at their experimental stations at Stoke Mandeville and Selby. Mr. Carr is at present Area Agricultural Adviser to B.O.C.M. Ltd. (Southern Branches) at Erith.

It has been arranged that Dr. W. P. Blount will continue to act as consultant to B.O.C.M. Ltd. on the veterinary aspects of animal nutrition.

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Ministry's Veterinary Field Staff: Changes in Personnel, etc.—Mr. F. P. Macleod, M.R.C.V.S., Veterinary Officer, was transferred from Leeds to Huddersfield on August 4th, 1953.

Messrs. R. M. McCaughey, M.R.C.V.S., and R. M. Roberts, M.R.C.V.S., have been appointed to the permanent staff as Veterinary Officers and will be stationed at Chelmsford and Perth respectively.

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University of London Post-graduate Diploma in Bacteriology.—Among the successful candidates at a recent examination for the academic post-graduate diploma in bacteriology held by the University of London was Mr. Norman George Fowler, M.R.C.V.S., of the Department of Pathology, Royal Veterinary College, London.

The award of this diploma to Mr. J. G. Brotherston, F.R.C.V.S., following the 1951-52 Course held at the London School of Hygiene and Tropical Medicine, also is announced. Mr. Brotherston at present is serving a second tour with the East African Veterinary Research Organisation in Kenya.

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AGRICULTURAL IMPROVEMENT COUNCIL FOR ENGLAND AND WALES

The Agricultural Improvement Council, which recently reached the end of a further three-year period of office, has now been reconstituted by the Minister of Agriculture and Fisheries.

The Agricultural Improvement Council was set up in 1941 to keep under review the progress of research with a view to ensuring that promising results are applied as rapidly as possible to the problems of agriculture and horticulture and that these and any other new technical methods are incorporated into ordinary commercial practice, and to advise the Minister of Agriculture from time to time concerning agricultural and horticultural problems which appear to require scientific investigation and generally as to the lines on which a policy designed to raise the technical standard of agricultural and horticultural production can best be implemented.

The full membership of the reconstituted Council is as follows:—

Sir Alan Hitchman, K.C.B., Permanent Secretary, Ministry of Agriculture and Fisheries (Chairman); Sir Edward Salisbury, C.B.E., HON.LL.D. (ED.), D.SC., SEC.R.S., Director, Royal Botanic Gardens, Kew (Vice-Chairman); Professor F. Blakemore, D.V.SC., M.R.C.V.S., D.V.S.M., Professor of Veterinary Medicine at the University of Bristol; Harold Collison, Esq., General Secretary, National Union of Agricultural Workers; Professor Sir Frank Engledow, C.M.G., M.A., B.SC., F.R.S., Drapers' Professor of Agriculture, Cambridge University; H. R. Finn, Esq., Farmer, Nackington Farms, Canterbury, Kent; Frank Griffith, Esq., Farmer, Bryn, Nr. Caernarvon; T. Neame, Esq., Farmer and Horticulturist, Macknade, Nr. Faversham, Kent; His Grace the Duke of Northumberland, Landowner and Farmer, Member of the Council of the Country Landowners' Association; H. J. Rathbone, Esq., F.L.A.S., Chartered Land Agent, Surveyor and Valuer, Mold, Flintshire; F. Rayns, Esq., C.B.E., M.A., Director of the Norfolk Agricultural Station, Sprowston, Norwich; Professor Ellis J. Roberts, M.SC., M.A., Professor of Agriculture, University College of North Wales; Professor H. G. Sanders, M.A., PH.D., Professor of Agriculture, Reading University; F. A. Secrett, Esq., C.B.E., V.M.H., Horticulturist, Hurst Farm, Milford, Surrey; Sir William Slater, K.B.E., D.SC., F.R.I.C., Secretary, Agricultural Research Council; H. Cole Tinsley, Esq., M.B.E., Farmer, West Deeping Manor, Peterborough, Northants; Sir James Turner, B.SC., LL.D., President, National Farmers' Union; Professor T. Wallace, C.B.E., M.C., D.SC., F.R.I.C., F.R.S., Director, Long Ashton Fruit and Cider Research Station, Bristol, and W. Morley Davies, Esq., M.A., B.SC., F.R.I.C., Ministry of Agriculture and Fisheries, 1-4, Cambridge Terrace, London, N.W.1 (Secretary).

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ROYAL COLLEGE OF VETERINARY SURGEONS

ACCESSIONS TO THE LIBRARY, MARCH-JUNE, 1953

Banham, G.: The veterinary surgeon's vade mecum (formerly veterinary posology). *Eighth edition*, W. A. Greig. London: Baillière, Tindall & Cox, 1952.

Barron, N.: The pig farmer's veterinary book. Ipswich: Dairy Farmer (Books) Ltd., 1952.

Biester, H. E., *and* Schwarte, L. H.: Diseases of poultry. *Third edition*. Ames, Iowa State College Press, 1952.

Burns, M.: Genetics of the dog. Farnham Royal, Commonwealth Agricultural Bureaux, 1952.

Commonwealth Agricultural Bureaux: Gazetteer of agricultural and forestry research stations in the British Commonwealth, 1952. Farnham Royal, Commonwealth Agricultural Bureaux, 1952.

Frankling, E.: The practical guide to dog breeding. London: Dogs Publishing Co., 1953.

Hobday, F. T. G.: Surgical diseases of the dog and cat. *Sixth edition*. London: Baillière, Tindall & Cox, 1952.

Kirk, H.: Index of diagnosis (clinical and radiological) for the canine and feline surgeon. *Fourth edition*. London: Baillière, Tindall & Cox, 1953.

Lacroix *and* Hoskins *editors*: Canine surgery. *Third edition*. Evanston: American Veterinary Publications Inc., 1952.

Linton, R. G.: Veterinary hygiene. *Fourth edition*. Edinburgh: Green, 1952.

Miller, W. C., *and* Robertson, E. D. S.: Practical animal husbandry. *Sixth edition*. Edinburgh: Oliver & Boyd, 1952.

Miller, W. C., *and* West, G. P.: Black's veterinary dictionary. *Third edition*. London: Black, 1953.

Sisson, S., *and* Grossman, J. D.: Anatomy of the domestic animals. *Fourth edition*. Philadelphia: Saunders, 1953.

Thornton, H.: Textbook of meat inspection. *Second edition*. London: Baillière, Tindall & Cox, 1952.

Whitney, L. F., *and* Whitney, G. D.: The distemper complex. Orange, Conn.: Practical Science Publishing Co., 1953.

To meet the demand for current issues subscriptions are being taken out for the two following journals:—

Journal of Agricultural Science—Cambridge.
Journal of Pathology and Bacteriology—London.

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IMPORTED BONE MEAL AND BONES (ANTHRAX)

Prior to the rising of the House of Commons for the Summer Recess, Sir L. Ropner (July 30th) asked the Minister of Agriculture if he has yet come to a decision about the sterilisation of imported bone meal and bones, with a view to minimising the danger of anthrax; and if he will make a statement.

Sir T. Dugdale: In the light of the discussions that have taken place with the trade and in view of the sustained fall in the number of outbreaks of anthrax since last autumn I do not feel I should be justified at present in requiring imported bone meal

and bones to be sterilised against anthrax. Such a requirement might well have a disproportionate effect on supplies of essential fertilisers. I shall continue to watch the situation, and where necessary my officers will continue to advise manufacturers on the steps they can take to avoid any danger of animal feeding-stuffs becoming contaminated.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

ANTHRAX:

Leics.—The Mount, Great Glenn, Leicester (July 27).

Staffs.—Beechcliffe Farm, Beech, Stoke-on-Trent (July 25); Broad Lane Farm, Brown Edge, Stoke-on-Trent; Lea Farm, Barlaston, Stoke-on-Trent (July 30).

Yorks.—Fellmanger Slaughterhouse, Woodmansey, Beverley; Eastfield Farm, Catwick, Hull (July 27).

FOWL PEST:

Cambs.—Westfield Farm, St. John's Road, and Hole Farm, Witchford Road, Ely (July 27).

Cornwall.—Montrose Farm, Mithian, St. Agnes (July 28); Bramble Bungalow, Carnhill Green, Camborne (July 29).

Dorset.—Ash Lane, Netherbury, Beaminster (July 30); Fairbank, Sigwell's Farm, Sigwells, Charlton Horethorne, Sherborne (July 28).

Herts.—Chiney Water Farm, Steeple Morden, Royston (July 29).

Salop.—Park View, Conbermere, Whitchurch (July 30).

Somerset.—Fish Shop, High Street, Yatton, Bristol (July 28).

Yorks.—Canal Wharf, Bridge Street, Rotherham (July 30).

SWINE FEVER:

Beds.—Cauldwell Walk, Kempston Road, Bedford; Oxley's Farm, West End, Haynes (July 29).

Bucks.—Hyde Farm, Olney (July 30).

Cambs.—Hill Farm, Wentworth, Nr. Ely (July 29).

Ches.—Cross Lanes, Bickley (July 28).

Cornwall.—Homecroft St. Cleer, Liskeard (July 30).

Derbys.—Heath Farm, Stanton Road, Burton-on-Trent (July 28); The Croft, Fritchley, Derby (July 29).

Dorset.—Sigwells Farm, Sigwells, Charlton Horethorne, Sherborne, Dorset (July 29).

Essex.—White Hall Farm, Polstead, Colchester (July 30).

Hunts.—"Stanwyn," Mill Lane, Buckden, Huntingdon (July 30).

Kent.—Bourne Place, Nizel's Lane, Hildenborough, Tonbridge (July 28); Elmdean Piggery, Horn's Cross, Stone, Dartford (July 30).

Lancs.—Ford House, Ford Lane, Ford, Liverpool, 21 (July 30).

Leics.—Horsefair Cottage, Belton, Loughborough (July 29).

Lincs.—Engine Farm, Moulton Chapel, Spalding (July 28); Jackson's Top, Donington-on-Bain, Louth (July 29).

Midlothian.—Easter Howgate, Milton Bridge (July 29).

Montgomeryshire.—Temperance, Tregynon, Newtown (July 29).

Northants.—3, Pytchley Road, Kettering (July 28); Fieldside, Coates, Whittlesey, Peterborough (July 29); Grimscote Mill, Cold Higham, Towcester; Kingsland Farm, Coates, Nr. Whittlesey, Peterborough (July 30).

Notts.—The Croft, Lime Grove, Forest Town, Mansfield (July 29).

Salop.—St. John's House, St. John's Street, Bridgnorth (July 29).

Staffs.—Welwyn, Wedges Mills, Cannock (July 29).

Surrey.—Queenswood Farm, Ottershaw, Chertsey (July 29).

Sussex.—Lower Gate Farm, Battle; Bluebell Farm, Junction Road, Staplecross, Robertsbridge (July 30).

Yorks.—254, Halifax Road, Hightown, Liversedge (July 28); No. 5, Batley Road, Kirkamgate; High Thorne, Stamford Bridge Road, Dunnington (July 30th).

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The XIIIth International Dairy Congress

The XIIIth International Dairy Congress held at The Hague, June 22nd to 26th, 1953, was attended by nearly 3,000 representatives from 36 countries, one of the largest delegations, and about 10 per cent. of the total, being from Great Britain.

The discussions tended to emphasise the handling and distribution of milk after it leaves the farm gates rather than milk production at the earlier stages. Thus much attention was given to such items as the bacteriological quality of milk, its transport, pasteurisation, homogenisation, nutritive value, packaging and sales methods, also the manufacture of milk products. However, a few of the papers were of a nature likely to be of interest to the veterinary profession, *e.g.*, A. Suurballe, in a paper entitled "The campaign against contagious abortion in Denmark," outlined special features such as the value of loyal co-operation by the Danish farmers in a national scheme to eliminate the disease, and the milk test (Abortus—Bang—ring test) for preliminary use to reduce the number of blood tests. The autnor's optimism regarding ultimate success may not be shared in some other countries with experience of the practical difficulties of controlling reintection; indeed, mention was made of infection spread by stray dogs.

Another Danish contribution was that of P. Livoni, "Experiments in collective action with a view to the eradication of mastitis caused by streptococci." The methods of control included careful attention to hygiene and treatment with penicillin; evidence was provided of a positive link between narrow cowshed stalls and the degree of mastitis infection. A paper on "Antibiosis and bacteriophage" by A. T. R. Mattick discussed in a realistic manner the difficulties of cheese-makers when using milk from cows treated with penicillin. It now appears that if such milk is treated with penicillinase, the lactic acid fermentation needed for cheese-making can be restored.

The significance of colostrum in calf rearing was discussed in two papers by P. L. Ingram, R. Lovell, P. C. Wood, R. Aschaffenburg, S. Bartlett, S. K. Kon, J. H. B. Roy and H. J. Sears, "White scours of calves in an enclosed community" and "The immunological importance of colostrum," in which the following statement appears: "The colostrum contains protective substances against potential pathogens prevalent in the neighbourhood in which the mother is living. The colostrum may not contain protective substances against bacteria that may be found in other environments. Such environments with their own bacterial flora are potentially dangerous for calves taken there shortly before birth or shortly after. These factors should be considered when planning special premises for parturient cows or newborn calves."

The organisation of the congress was excellent and many interesting tours could be made by members, both during and after the meetings.

S. B.

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"CLEANER FOOD: NEED OF A MEAT INSPECTION SERVICE UNDER VETERINARY SUPERVISION"

The following further correspondence has taken place in *The Times* since we reproduced, under the above heading, the letter from Dr. Wooldridge published in the July 13th issue of that paper:—

Sir,—It is regretted that Dr. Wooldridge should attempt to further the interests of veterinary surgeons by confusing the plea for cleaner food with the question of who should carry out the inspection of meat. Dr. Wooldridge will remember that he gave evidence before the Interdepartmental Committee on Meat Inspection and that the report of this committee, issued in 1951, recommended no change in the present system of sanitary inspectors carrying out meat inspection. Surely Dr. Wooldridge has confidence in his eminent veterinary colleagues who, with others, act as examiners on behalf of the Royal Sanitary Institute of those sanitary inspectors who seek to gain the additional qualification of the Government-recognised certificate of competence to inspect meat and other foods?

The special danger of cooked meat products arises in many cases not from disease in the meat itself but, unfortunately, from contamination of human origin. In fact, I venture to suggest that it is food poisoning caused in that way that causes most isolated cases, but which may outnumber those of which much publicity is made. It is true that a few cats have been found to harbour salmonella organisms, and I can assure you, Sir, that for some years sanitary inspectors have been persuading those responsible not to keep pets in food preparation rooms, and this has led to a marked decrease of animals so kept.—Yours faithfully, T. L. MARTIN, Senior Sanitary Inspector, Public Health Department, 14, Dane John, Canterbury. *July 15th*, 1953.

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Sir,—As Mr. Martin says in his recent letter to you, I was privileged to give evidence before the Interdepartmental Committee on Meat Inspection. Contrary to his implications that I am imbued solely by a selfish professional interest in the matter of clean (and safe) food for the public, I had the honour of being asked to give evidence on behalf of three separate delegations of varied interests. These were the Royal College of Veterinary Surgeons, the British Medical and British Veterinary Associations (jointly), and the Institute of Meat. Much of what the Interdepartmental Committee reported was in accord with the evidence these delegations gave.

Mr. Martin erroneously stated that the committee "recommended no change in the present system of sanitary inspectors carrying out meat inspection." In fact the committee made 35 recommendations of which the majority advocated some change for improvement. After emphasising the need for *ante-mortem* inspection, *post-mortem* examination, and facilities for laboratory investigation, the committee made the following further recommendations, numbered according to the report:—

"(xv) That, whenever practicable, veterinary surgeons should be appointed as senior inspectors responsible for groups of non-veterinary meat inspectors.

"(xvi) That non-veterinary inspectors should be encouraged to seek the advice of veterinary surgeons as professional consultants."

Knowing the various standards by which any subject may be examined, I can assure Mr. Martin that I have every confidence in my colleagues who examine for meat inspection certificates. It is their view, as my own, that this country should have a co-ordinated meat inspection service properly supervised by members of the veterinary profession.—Yours faithfully, W. R. Wooldridge, Chairman of Council, Animal Health Trust, 232-235, Abbey House, Victoria Street, S.W.1.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

BOS BRACHYCEROS OR DWARF CATTLE

Sir,—I read Dr. Jeffreys' article with much interest. Considerable controversy took place in the Gold Coast on this very question.

My predecessor, Captain W. P. B. Beal, M.R.C.V.S., D.V.S.M., was the first to study livestock improvement in the Gold Coast. He considered that the local cattle, which were mainly *Brachyceros* in origin, should be improved by grading with larger breeds. Firstly, in the 1920s, he used European bulls on the local cattle, and when the progeny proved too susceptible to enzootic disease he carried on with larger and better African types such as the Zebu. The Veterinary Department was responsible for livestock improvement and I carried on and elaborated the policy of Captain Beal, which was popular with the cattle owners as it certainly produced improved cattle, suited to the environment.

In the 1940s, the Agricultural Department, in its mixed farming scheme, went in for improvement by selection within the *Brachyceros* breed and insisted to Government that this policy was the only sound one and that the Veterinary Departmental policy was wrong. I requested that Government should get a livestock authority of repute to adjudicate. The Colonial Office appointed Professor W. C. Miller, M.R.C.V.S., F.R.S.E., whose opinions appeared in a paper styled "Memorandum and report of the animal health and husbandry in the Gold Coast," Govt. Printer, Accra, 1947. It is interesting that Professor Miller's opinions, which approved our policy and condemned the other, are confirmed categorically by the researches of Dr. Jeffreys.—Yours faithfully, J. L. Stewart, late Director of Veterinary Services, Gold Coast, P.O. Magoebaskloof, North Transvaal, South Africa. *July 22nd*, 1953.

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FELINE ENTERITIS

Sir,—I read Mr. Wright's letter with interest and was glad to find that he considered chloromycetin was often a cure for feline specific enteritis. This was my own experience some two years ago, in cats which presented symptoms more typical of that disease than those described by Mr. Wright. I have observed feline enteritis over a period of 40 years, years in which no therapy was of avail, and *post-mortem* examinations taught me to know what symptoms had prevailed before the victims died. The characteristics were pyrexia, depression, *repeated emesis and a weak, plaintive cry*, and little else. Death occurred as a rule within 48 hours in 90 per cent. of cases and the morbid anatomy varied very little. Now, in Mr. Wright's cases, the objective symptoms appeared to be pyrexia, anorexia and listlessness, no mention being made of the important symptoms—*emesis and pain*. I am entitled to wonder whether his cases were, in fact, specific enteritis, or a bacteraemia in which elevated temperature would normally be accompanied by anorexia and listlessness. The presence of chloramphenicol in the blood stream would be highly likely to combat such a bacteraemia; but could we be sure that the disease was in fact a *viral* enteritis? My revered friend Dr. Stanley White, of Parke, Davis & Co., put me in possession of the very first available samples of their excellent antibiotic, which I am pleased to say has proved of inestimable value in small-animal practice. When applauding the specific properties of a particular drug for a specific disease we must be sure that our diagnosis is correct.—Yours faithfully, H. Kirk, Finchley Road, N.W.11.

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THE SWINE FEVER—REGISTERED VACCINATED HERD SCHEME

Sir,—*Re* the Swine Fever—Registered Vaccinated Herd Scheme, yesterday I sold a litter of 10-week-old cross-bred pigs for £7 each. We are now told that we general practitioners must subsidise the pig breeders out of our own pockets!

If we are to give a substantial discount for injecting over 20 pigs (25 per cent. of our margin has been mentioned), then the Ministry of Agriculture or whoever supplies us with vaccine must be prepared to give us a substantial discount on all purchases of vaccine over, say, 100 c.c. It is essential that we be paid a mileage allowance. Seven shillings and sixpence does not cover the cost of a round journey of, say, 15 miles. To pretend that it does so creates a very dangerous precedent. Many pig breeders do so on a part-time basis, they require attention after 6 p.m., on Saturday afternoons, etc. Is this service to be covered by a 7s. 6d. fee?

The only people who are to benefit by this unfortunate scheme are the N.F.U., the purveyors of vaccine and those members of our profession who get up at public dinners, etc., and "spout" about the efforts of our profession to aid the Noble Art of Agriculture, etc. These will now have a fresh theme to harp upon.

No comparison of this scheme with that of tuberculin testing or calf vaccination is valid unless one remembers that this scheme is not to be underwritten by the Ministry of Agriculture; *i.e.*, we must collect our own fees and pay for our own vaccine. Many members of the N.F.U. are unlikely to pay up at 30 days unless there is a substantial discount to be collected for doing so.

There are other criticisms, but I think that it has been shown that the scheme requires a certain amount of revision before being foisted as "an agreed measure" upon the unfortunate practitioner.—Yours faithfully, John G. P. Wood, Moorcroft, Reepham, Norwich. *July 26th*, 1953.

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Sir,—With reference to the correspondence on swine fever vaccination, I see that Mr. Hall has quite appropriately drawn attention to the Calfhood Vaccination Scheme. I feel that for the guidance of those negotiating on behalf of the B.V.A. it would be germane to draw their attention to the scale of fees payable to certifying officers for calves inspected for subsidy during the years 1948-52. In this case the "certifying officers" were farmers elected from among their own numbers. I believe it is true to say that these farmers were issued with protective clothing and the instrument for punching the ears of the calves. No mileage was paid. The fees are along these lines: one calf 3s. 6d., five calves 17s. 6d., 10 calves 35s., 20 calves 60s.; any additional calves 1s. 6d. per calf. These "certifying officers" have now been replaced by whole-time officials on the grounds of economy.

From these facts two deductions may be drawn. Firstly, this scale of fees was too high. Secondly, at the time this scheme was inaugurated the services of the farmers officiating were rated higher than the services of veterinary surgeons engaged in the Calfhood Vaccination Scheme. I feel that the profession have something here.—Yours faithfully, J. P. Pickering, Orchard House, Priestpopple, Hexham, Northumberland. *July 25th*, 1953.

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Sir,—One of the greatest mistakes which our profession made was that of vaccinating calves under the abortion scheme for 1s. I for one never did it and I am positive that the practice has not suffered in consequence. I would rather have done them for nothing than accept that terrible figure of 1s.: the tip the cowman expects. Because of having accepted that figure for calves the farmer will expect us to do the same thing for his pigs, *viz.*, the vaccine to be supplied free of charge from Weybridge and we to do the inoculation for 1s. per pig. The best advice is to ignore it and not to trouble any more about it.—Yours faithfully, G. C. Lancaster, Eastwick House, Evesham, Worcs.

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Sir,—I have read in the *Record*, July 25th, "Swine Fever—Registered Vaccinated Herds Scheme," the justifications put forward for the negotiations now proceeding between the B.V.A. and the N.F.U. I cannot say that they inspire confidence.

We are told that all was dealt with, and approved, at a special B.V.A. Council meeting on July 9th, and at a meeting of the Lincolnshire and Eastern Counties Divisions on July 7th. The ruminations of a special meeting of Council, B.V.A., are unlikely to be known to the profession as a whole for a considerable length of time.* Neither are those of a Divisional meeting, for we cannot all rush down to Lincolnshire even if we were informed of the agenda. It occurs to me that Mr. Waddington's attendance at the Lincolnshire and Eastern Counties meeting stimulated his misgivings and his excellent letter; but for this letter, and *Hansard's* records, we would still be unaware, officially, of any scheme. Our next Divisional meeting is in October and our last was on June 17th. I heard only vague hush-hush rumours at

[*A report of the special meeting of council to which our correspondent refers appears in the *Supplement* circulated to members, B.V.A., with this week's issue.—*Editor.*]

the June meeting which caused me dismay, and by October any information divulged will be long outdated.

You state, Sir, that the scheme was first mooted in January, 1952. May I refer you to the minutes of the Scottish Metropolitan Divisional meeting of February 27th, 1952. A suggested scale of fees for C.V.V. was intimated. I stated that it was too low for the running costs of practice to-day. I was then informed, if not on authority, then certainly on what I was expected to believe was authority, that this was not a definite scale of fees to be laid down, but merely a suggestion put forward as a guide to practitioners. The practitioner has a long working day and can be forgiven for missing publications here and there, but I can find no mention of a scheme, as such, anywhere.

Are not Mr. Waddington's questions still unanswered? Surely the whole method of procedure is out of order. In a matter of this kind a preliminary discussion by Council, B.V.A., should be held and their suggestions put to all Divisions before proceeding further. This has not been done and the practitioner is entitled to take a very poor view of it. An outsider would be justified in thinking that we were a nationalised profession, and I venture the opinion, with sorrow, that had we been so the terms would be much more favourable to the practitioner.

The identities of the gentlemen dealing with the scheme are unknown to us, the ultimate low or high in their estimation of the practitioner's worth is unknown, and, to me at any rate, the B.V.A.'s conception of procedure is a closed book.

In the current *Record* the Minister of Agriculture is quoted on the " Importance of Veterinary Science to Modern Agriculture." Dare one reiterate that the labourer is worthy of his hire and a profession which takes the rap regarding fees will lose face as well as figure. The pig industry is in a flourishing state and needs no charity.

Obviously, and possibly naturally, the Minister of Agriculture, in the current phrase, " couldn't care less " what the veterinary surgeon receives for pig-sticking. All he wants is a good pig scheme to help him to continue for as long as possible as Minister of Agriculture. Similarly the N.F.U. officials want as low a fee as possible so that they will remain N.F.U. officials for as long as possible.

With those observations in mind, and taking a few leaves from the note-books of their opposite numbers, the B.V.A. should know what to do.

This is a tough world, and if one doesn't fight one doesn't win. —Yours faithfully, RONALD F. HALL, 24, Stafford Street, Edinburgh, 3. *July 27th*, 1953.

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Sir,—I had not intended to enter further into this correspondence, but the statement made on pages 475 and 476 of *The Veterinary Record* of July 25th is an attempt to discredit the accuracy of my original letter and I must therefore ask for a little more space in your correspondence columns.

In my letter published July 11th I commented on the announcement in Parliament that considerable progress had been made in discussions between the British Veterinary Association and the National Farmers' Union with the object of devising a swine fever vaccination scheme.

I asked the officers of our Association nine questions, the first of which required them to justify their action in agreeing to these discussions without reference to members, especially as two divisions had sent formal resolutions condemning the idea of a vaccination scheme.

The statement in your issue of July 25th implies that readers of the *Supplement* should have been aware that such a scheme was afoot. This attempt to reassure us makes no difference whatever to the meaning of my original letter and is most certainly not an answer to my first question.

It so happens that I have read the Supplements and to assist members who may wish to check up on this matter I append the numbers and dates of those Supplements which contain any reference to crystal violet vaccine published during the past 18 months:

Supplement	**13.**	1.	Date 19.1.52.	Page 17.
,,	**13.**	3.	,, 19.4.52.	,, 70.
,,	**13.**	4.	,, 21.6.52.	,, 91-92.
,,	**13.**	6.	,, 6.9.52.	,, 142.
,,	**14.**	1.	,, 10.1.53.	,, 7.
,,	**14.**	3.	,, 28.3.53.	,, 57.
,,	**14.**	5.	,, 20.6.53.	,, 80.
,,	**14.**	6.	,, 25.7.53.	,, 113.

The last two Supplements were published after my letter was written, but this makes no difference.

Readers will be able to refer to these Supplements, so there is little point in giving a synopsis of the references to swine fever vaccinations. Suffice it to say that *not once* was any mention made of discussions between the B.V.A. and the National Farmers' Union.

It was not until the June 20th *Supplement* that any indication was given that even a draft scheme had been prepared.

The joint meeting at Peterborough was called at short notice so that a resolution could be obtained in time for the *emergency* meeting of Council to be held on July 9th. Why this sudden haste to bring forth a scheme which had been brewing slowly for 18 months?

My original letter was written and dated June 17th, but the fair copy was not sent to *The Veterinary Record* until June 25th. The date on my letter was altered by you, Sir, to June 25th, as you explained to me, so that it would not appear that there had been too long a delay in publication. Even so, it could easily have been published on July 4th, but was held up by the Editorial Committee. Was it coincidence that publication was delayed until after the joint meeting at Peterborough and the emergency meeting of Council? The report of the Lincolnshire and Eastern Counties joint meeting at Peterborough was published in the *Supplement* dated July 25th, but no proper minutes were kept. The report gives no indication of the volume of discussion, the feeling of the meeting or my own attempts to fight the scheme.

The " reassuring " footnote appended to my letter of July 11th states that my questions were dealt with at the meeting at Peterborough and at the Council meeting held on July 9th. Possibly the questions were answered at the Council meeting, but, to be accurate, the footnote must have been written before the meeting was held, as *The Veterinary Record* normally goes to the printers on Wednesday, which was July 8th.

As regards the Peterborough meeting, which I attended, the President made an introductory speech and explained the origins of the scheme before throwing it open for discussion. I started the discussion by reading my then unpublished letter, which was quite well received. The President then remarked that most of the points had been covered by his introductory remarks, but those present know quite well that my questions were not properly answered and I did not press for specific replies at that time.

I feel fairly sure that if my letter had been read and properly considered before the meeting the attendance would have been more representative and the resolution would not have been passed.

I attended a normal meeting of the Eastern Counties Veterinary Society at Bury St. Edmunds during the next week—after publication of my letter—and at that meeting there was considerable opposition to the swine fever vaccination scheme and all schemes in general, the speakers including members who could not attend the Peterborough meeting.

I am glad of the support given to my views by Messrs. Pollock, Massey and Hall writing in your issue of July 25th, and I feel sure there must be many others who agree with them.

I trust that our officers have now realised that we are not happy about this state of affairs and conclude by reminding them that my nine questions remain unanswered.—Yours faithfully, F. G. WADDINGTON, " Limuru," Thetford Road, Watton, Norfolk. *August 3rd*, 1953.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Sheep Scab	Swine Fever
1st to 15th July, 1953	11	—	111	—	93
Corresponding period in—1952	36	29	5	—	22
1951	7	3	22	—	32
1950	9	—	9	—	13
1st January to 15th July, 1953 ...	445	26	619	—	1,826
Corresponding period in—1952	310	437	126	1	579
1951	267	21	516	4	510
1950	220	14	96	19	35

Tuberculosis Order of 1938

The number of bovine animals slaughtered under the Tuberculosis Order of 1938 during the period April 1st to June 30th, 1953, was 554.